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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,932	12/19/2001	Friedrich Boecking	1788	2618

7590

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EXAMINER

ADDISON, KAREN B

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/018,932

Applicant(s)

BOECKING, FRIEDRICH

Examiner

Karen B Addison

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Allowable Subject Matter***

1. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 9-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Bindig (6208026).

Bindig discloses a Piezoelectric actuator in fig. 2 and 3 (col. 3 19-65) comprising: a Multilayer structure of the piezoelectric piles (2), wherein each second internal electrode is in contact with a first outer electrode(6 made of metal) on a first longitudinal outer sides of the piezoelectric actuator and wherein, electrodes lying there between are in contact with a second outer electrode on a second longitudinal outer side of the piezoelectric actuator. Bindig also disclose, the first and second consecutive internal (3) electrodes that contact one of the longitudinal sides are electrically connected with one another by means of an outer contact (7) on one of longitudinal sides, wherein, from the first and second internal electrodes connected with one another by means of the outer contact, the first internal electrode extends out to the other longitudinal side at a side of

the first internal electrode that faces away from the outer contact (7), and wherein the second internal electrode terminates with in a piezoelectric ply bordering on the internal electrode, and wherein the outer electrodes are in contact with the internal electrode by means of outer contact(7) whereby a region of the longitudinal outer sides that is not provided with outer contacts bridged (see fi.2) over at a specific distance in a shape of a wave and the internal electrodes that extend to the piezoelectric ply is not to be contacted at a specific distance in a shape of a wave.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bindig(US 6208026)in view of Bindig (DE 19753930).

Bindig(US6208026) substantially discloses that claim invention in fig, 2 –3. However, Bindig do not disclose an electrically insulating ceramic plate at each end of the piezoelectric piles.

Bindig (DE197593930) discloses a piezoelectric actuator in fig.2a-2c comprising : a multiplayer structure of piezoelectric piles(1) internal electrode(14) external electrodes(5) and a insulating ceramic plate(7,9) at each end of the piezoelectric piles for the purpose or insulating the piezoelectric piles. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to

modify the piezoelectric device of Bindig (US) with the insulation Plate of Bindig (DE) for the purpose of improving a insulation of the piezoelectric actuator.

6. Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Bindig(US) inview of Bindig(DE) as applied to claims 9-15 above, and further in view of Sato(0165407).

As see above Bindig (US) discloses a piezoelectric actuator comprising contacts and BindigDE) discloses an insulating ceramic plate. However, neither Bindig(US) nor Bindig (DE) discloses a flow valve.

Sato discloses in fig.2 a piezoelectric actuator (22) comprising a flow valve for the purpose of controlling fluid in short intervals of time. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the piezoelectric actuator of Bindig (US) and Bindig (DE) with the flow valve of Sato for the purpose of controlling fluid flow at high speed.

#### ***Response to Arguments***

7. Applicant's arguments with respect to claims 9-15 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen B Addison whose telephone number is 703-306-5855. The examiner can normally be reached on 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1317. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

KBA  
June 13, 2003

  
2600